



Trees For Life

Tree Scheme

Planning to plant your native seedlings

An outline

Planning is important for the successful long term establishment of your plants. It will minimise failures and wastage and maintain your enthusiasm.

Trees For Life, 5 May Terrace, Brooklyn Park SA 5032

Ph: 8406 0500

Fax: 8406 0599

Email: info@treesforlife.org.au

www.treesforlife.org.au





PLANNING

Planning can begin 12 months ahead of planting. Factors such as the aim of the project, original plant communities, rainfall, soil types, frost, prevailing wind, land modification such as salinity and water catchments should be known.

CONSIDER YOUR OBJECTIVES

Most species will serve a range of purposes, but none will do everything. Therefore a critical first step in planning for your revegetation is to develop a clear idea of what you are trying to achieve.

Many people starting a revegetation project want to establish a windbreak or plant out an area which is becoming saline. The following are some general guidelines about planting for particular purposes, incorporating local species.

It is important to remember to plant species most suitable for the area and soil type. Don't just plant one species, or the tallest species (eg river red gum) if it doesn't occur locally. Much greater success will be achieved by your planting if you use appropriate species. Trees For Life has species lists of appropriate local native plants for your area.

Revegetation is a long-term investment in your property, so it is worth spending some time preparing a good plan. This guide provides only a brief outline of some of the things to consider when planning your revegetation effort. TFL urges you to seek detailed information from other sources. A list of revegetation advisory contacts has been provided at the end of this booklet. The publication "*Farm Revegetation Design – Optimising Your Benefits*" by Peter Bulman and Greg Dalton is also a good written resource for further, more detailed information on revegetation planning and design, and is available through your local PIRSA officer.

Consider the best revegetation method/s for your site. Planting tubestock is a very common method of revegetation, but it may suit your project to also use other methods. For larger projects talk to us about direct seeding. Some areas with existing remnant vegetation may need no planting at all, only needing fencing off to allow natural regeneration.

PROTECTION IS VITAL

Consider what protection your planting will need before ordering seedlings. Plants must have protection from farm animals, wildlife, rabbits, hares and goats for at least 2 years. Planting seedlings without protecting them is a waste of time, money, effort and seed. The most effective method is fencing, although sturdy individual tree guards for smaller plantings may be more economical.

A list of tree guard suppliers is included at the end of this booklet. They supply a range of tree guards, and will be able to advise on which type will best suit your particular situation.





PLANTING FOR SALINITY CONTROL

Soil salinity is an increasing problem due to rising groundwater. One of the best ways to combat salinity is to put back deep rooted trees and shrubs that will use some of the water which had previously been going into the groundwater. It is often recommended to use non-local species to plant into saline areas, but there is evidence that some local species are quite salt tolerant when planting is done correctly.

Isolation

When starting rehabilitation of a salt affected area, the first step should be fencing off, or removing stock. It is best to leave the site like that for as long as possible before planting. This allows it to recover from grazing pressure, and often other plants (especially grasses) will establish themselves, saving you time and effort.

Position

With the help of a technical adviser, such as a consultant from PIRSA Rural Solutions, try and identify the important recharge sites on your property. These sites would typically include sandy hills and/or rocky ridges. Begin planting the native trees and shrubs in groundwater recharge sites rather than directly into the salty scald. Here the plants will begin to use the excess water, and reduce the amount entering the groundwater. Gradually it may be possible to plant into the scalded area.

Woodlot and other production potential

It is possible to revegetate to combat a salinity problem and produce a crop with financial potential. Woodlots are one type of potentially profit-making planting, and we offer some species which are suitable for this. There are also other crops such as fodder, saltbush, cut flowers and bush food. Before venturing into these long term crops, it is important to prepare a plan and to speak with local PIRSA Officers.

PLANTING FOR WINDBREAKS

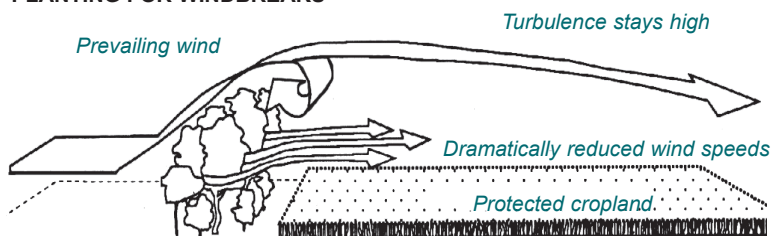


Figure 1: Windbreak Design Principles.

Windbreaks work by filtering and breaking the force of the wind (see Figure 1). Semi-permeable windbreaks which let some wind pass through are the most suitable. Ensure that understorey is planted to help maintain health of larger species. Windbreaks of three rows are usually effective for most farm situations. Single row windbreaks should be avoided.

Position

For best results, plant windbreaks at right angles to the wind from which protection is needed. These are not necessarily the prevailing winds. Crops are generally affected by hot, drying winds from the north. Livestock are at greatest risk from cold winds and rain which often come from the south or south-west.





Height

The windbreak height determines the size of the sheltered area. The taller the windbreak, the greater the area it protects (see Figure 2).

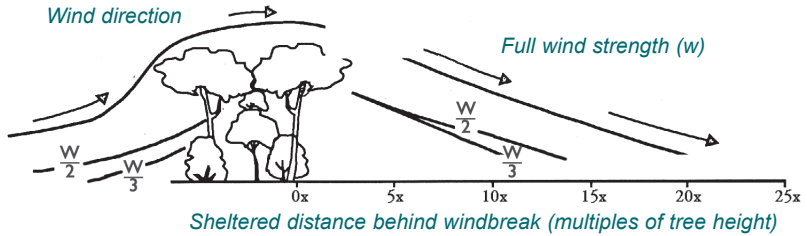


Figure 2: A properly designed windbreak provides shelter up to 25 times its height downward and 5 times its height upward.

Length

Windbreaks are most effective when they stretch without major gaps for distances exceeding 12 times the mature height of the trees. Thus, a windbreak 20m high should not be less than 240m long in an area of constant wind direction. If the windbreak is too short, wind is deflected around it leading to increased wind speeds at the ends.

Tree spacing

Distance between plants in windbreaks is based on local climate, soils and suitable plants, allowing access for weed control and maintenance. Understorey plants should be planted closer together than larger tree species, and there should be a much higher proportion of shrubs and groundcovers than trees. In general, tall trees should be about 8 metres apart, small trees 4 metres apart and shrubs 3 metres apart. If available, grasses and small understorey plants are best planted in groups close together. Figure 3 provides a diagrammatic indication of tree and understorey planting in a three row windbreak.

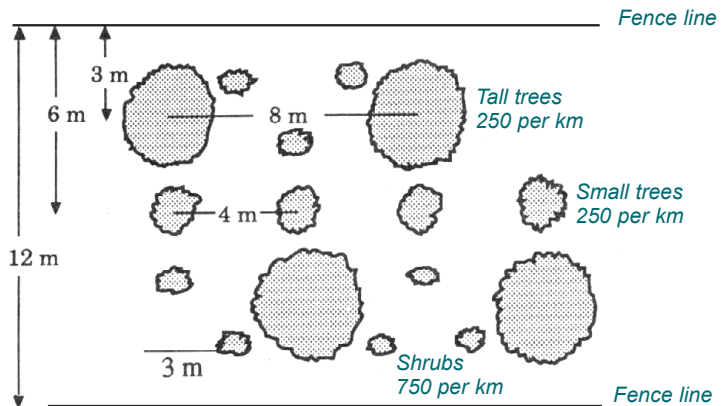


Figure 3: Recommended tree spacing for a three-row windbreak.





Gaps

Gaps are required for gates and tracks; but because of the funnelling effect through the gaps, wind velocity in these areas can be substantially increased. This can be minimised by angling the gap at about 45 degrees to the prevailing wind direction (see Figure 4) or by planting a few short trees or shrubs on either side of the gate or track (Figure 5).

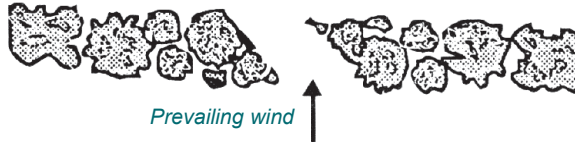


Figure 4: Angling the sides of the windbreak for gates and other gaps (top view).

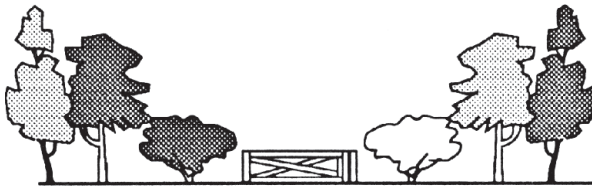


Figure 5: Planting lower shrubs each side of the gap to lower gap wind speed (side view).

Protection: keep windbreaks permanently fenced to prevent gaps being created by livestock and vermin browsing on the lower limbs of trees and on newly established seedlings.

Land capability: consider the best location of windbreaks to match land capability boundaries and not necessarily along existing fence lines. For further advice contact your local PIRSA officer.

PLANTING FOR BIODIVERSITY HABITAT CREATION

Conserve what is left

As well as helping with shelter, salinity and erosion etc, good revegetation projects will help to conserve the plants and animals that already occur naturally in your area.

Look for existing native plants on your property and surrounding areas. Native grasses and other understorey species often persist near roadsides and on rocky outcrops. Protect these areas before digging or spraying. By carefully planting your tube-stock plants you can complement and avoid damage to existing local plants.





You might also have some original trees on your site. Try to put back the plants that once grew with them. You can get help with plant identification from PIRSA Revegetation Officers, Weed Control Officers, Council Natural Resource Officers, private vegetation advisers and perhaps from members of your local Landcare group.

The plants that have evolved in your area are the best adapted to grow in your area. We therefore recommend that you collect your own seed if you can. The book "What Seed Is That?" by Neville Bonney (available for purchase through Trees For Life) will also help with seed collection. If you collect your own seed, always collect from several plants in local, naturally-occurring populations and keep a record of your seed source locations.

Consider how to look after the nearby bushland areas that you use as seed sources. Come to a *Bush For Life* workshop to learn more. The book "*Stop Bushland Weeds*" by Meg Robertson is a good resource for this and the new edition is available for purchase through Trees For Life.

Be creative: You can enhance biodiversity by correct design principles.

Link your project to other projects in the region and in your district. Try to develop links and buffers with existing remnant vegetation on your property and surrounding properties. Linking corridors should be as wide as possible.

Bigger areas are better for biodiversity than small areas. Shape is also critical: Block shaped or round areas are better than long narrow areas. Planting native vegetation adjacent to existing vegetation acts to increase the total area of native vegetation.

Plant back what once grew on the site, aiming to establish vegetation communities rather than a random mix of species. Ensure the communities you want to establish are suited to the physical properties of your planting areas (ie, soil, slope, climate, etc). To encourage the natural flora and fauna of your area, it is better that your revegetation project has a few species that are right for your site than many species that are not.

Don't tidy up the planting area. Dead trees and logs are vital habitat components so resist the temptation to tidy up your site before planting.

Have a look at the publications "*Creative Revegetation; enhancing biodiversity by design*" written by Greg Dalton, or "*Farm Revegetation Design – Optimising your Benefits*" written by Peter Bulman and Greg Dalton, available from your PIRSA Officer. Contact your local Bush Management Adviser, PIRSA Rural Solutions or Trees For Life for further assistance.

PLANTING FOR SOIL EROSION CONTROL

There are many types of soil erosion, caused by wind and water. Lack of suitable cover for the soil can lead to sheet and channel erosion, mass movement, tunnel erosion and wind erosion.

It is important to select deep-rooted species and ground covers which will hold the soil together in areas under threat of erosion. Plants such as *Dianella* species which clump together and form strong roots can help. Don't rely on single stemmed larger trees. These can make the problem worse as water can channel around them. Inter-plant with shrubs and groundcovers to avoid this.





USEFUL CONTACTS

The following list provides some useful contacts if you would like to discuss revegetation or property planning, or bush management. These details were correct at the time of printing, but staff changes happen.

Rural Solutions 13000364 322

info@ruralsolutions.sa.gov.au

www.pir.sa.gov.au

Department of Environment and Heritage 8204 1910

Adelaide Regional Office 8336 0924

Kangaroo Island Regional Office

37 Dauncey St, Kingscote 8553 2381

Murraylands Regional Office

28 Vaughan Tce, Berri 8595 2111

Northern & Yorke Regional Office

Unit 3/17 Lennon St, Clare 8841 3407

Port Lincoln Regional Office

75 Liverpool St, Port Lincoln 8688 3111

Port Augusta Regional Office

1st Floor 9 McKay St, Port Augusta 8648 5300

South East Regional Office

11 Helen St, Mount Gambier 8735 1177

www.environment.sa.gov.au

Murray River Local Action Plan 8374 1491

www.murrayusers.sa.gov.au

Greening Australia 8372 0100

www.greeningaustralia.org.au

Tree Guard Suppliers

JA Grigson (Lonsdale) 8384 3177

State Flora (Belair) 8278 7777

Woodsgrow Equipment (Melrose Park) 8277 6677

Treemax (Parafield Gardens) 8258 5000





DIAL BEFORE YOU DIG

Phone: 1100

Fax: 1300 652 077

www.dialbeforeyoudig.com.au

Remember to check areas above and below your planting site for services such as Telstra and ETSA. If the land is not your own be aware of possible conflicting usage; for example, is someone else going to put a firebreak or a telephone tower through your planting? Find out or be prepared for disappointment.

ETSA urges you to plant only appropriate species under power lines, this means planting low growing plants and ground covers. ETSA is legally obliged to trim trees under power lines and you can prevent distress to yourself and your trees by planting them well away.

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